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FEBRUARY 2nd 1891.

H. W. JOHNS'

ASBESTOS

R A D E M A N Y R K

MATERIALS

AND MANUFACTURES FOR
MECHANICAL, STRUCTURAL & HOUSEHOLD PURPOSES.

H. W. JOHNS MANUFACTURING CO.

SOLE MANUFACTURERS.

87 MAIDEN LANE, NEW YORK.

CHICAGO PHILADELPHIA BOSTON
LONDON

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This cut represents a specimen of Asbestos (from our own mines) in its natural state.

THIS wonderful mineral, which has been brought to light chiefly through our instrumentality, is now so well known that a description of its valuable properties is unnecessary. Possessing fine, silky fibers, it can be spun, woven, felted and pulped, in all of which forms it continues to retain its peculiar fibrous and interlacing or binding properties.

The growing importance attached to the use of ASBESTOS has induced unscrupulous persons to infringe our patents, and in some instances to associate its name with their productions, omitting its use, thus injuring the reputation of the genuine ASBESTOS materials, of which we are the inventors. We therefore take this opportunity of warning the public against worthless imitations and infringements, and would call especial attention to the fact that all our manufactures bear the name of H. W. JOHNS, with dates of patents or our trade mark,

ASBESTOS
TRADE MARK

The following Companies are duly licensed to manufacture their special Asbestos goods under our Patents :

THE CHALMERS-SPENCE CO., NEW YORK.
THE ASBESTOS PACKING CO., BOSTON.
THE SHIELDS & BROWN CO., CHICAGO AND NEW YORK.

H. W. JOHNS MANUFACTURING CO.

1858-1891.

1891. — We offer this year our *Perfected Asbesto-Sponge Portable Sectional Covering* for Steam Pipes, Boilers, etc., which we consider one of our most valuable inventions (see page 19).

We would also call attention to our *Great Improvement in Roofing*, made by a recently perfected process with entirely new machinery, for which patents have been granted in the United States, Canada and Europe.

In 1858 we commenced the manufacture of Compositions for roofs and for preserving wood, metals, fabrics, etc., and shortly after produced our portable ROOFING, which, in an improved form (the well-known ASBESTOS ROOFING), is now in general use in nearly all parts of the world.

In 1868 we first made known the results of our long continued experiments with the indestructible fibrous mineral, ASBESTOS, then comparatively unknown, and commenced the manufacture of the numerous specialties composed wholly or in part of Asbestos, which have since become recognized standard articles for mechanical, structural, electrical and other purposes.

In 1874 we commenced the manufacture of LIQUID PAINTS. Our success in this branch has been unparalleled, no other paints for structural decoration having so large a sale or commanding so high a price in this country or abroad.

The demand for our products has increased so steadily that we have nearly every year been compelled to extend our manufacturing facilities, until we now have the *most extensive and complete works in the world* for analogous purposes.

Our various kinds of goods are severally adapted for each season of the year, and by manufacturing many specialties under one general system, we are enabled to supply them at *lower prices, quality considered*, than can be afforded by any manufacturer of *only one class of goods*. We have always aimed to produce materials of *the best quality, and challenge the world* to show articles for similar purposes which, in usefulness, durability and perfection of manufacture, equal ours, and we confidently anticipate the continued and increasing patronage of those who have learned that the purchase of the best article for practical uses is true economy.

NOTE.—Nearly all the practical forms of Asbestos were invented by H. W. Johns.

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LIQUID PAINTS.



These are in every respect strictly first-class Paints, composed of pure linseed oil and the highest grade of pigments. They are combined by processes exclusively our own, and are unequaled by any in richness and permanency of color. As these Paints contain no useless or deleterious adulterations, the great difference in their covering properties in comparison

with ordinary paint is at once recognized, and the universal testimony is that from fifteen to twenty-five per cent. of the usual cost of painting can be saved by their use.

They are prepared ready for the brush, in fifty-four newest shades and standard colors, and we offer them as the most durable and economical paints ever produced for general structural purposes.

One gallon will cover from 250 to 275 square feet, two coats, without thinning.

Send for Circulars containing samples, testimonials, suggestions for painting, etc., free by mail.

ASBESTOS

The above is a fac-simile of our trade mark, which will be found on every package of our Paints.

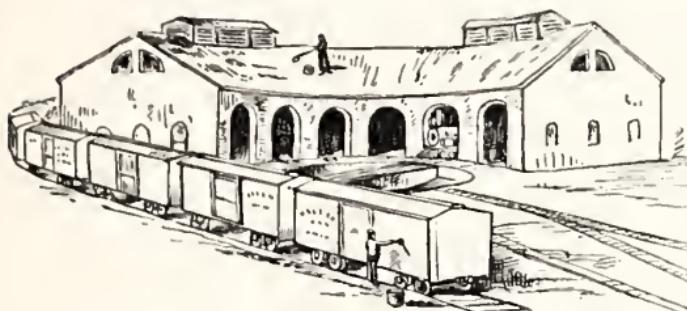
Price, per U. S. Standard Gallon Measure, for all Shades on Sample Sheets, except those Specially Quoted.

BBLs., per gal., 45 to 30 gals	KEGS, per gal., 20, 15, 10 & 5 gals.	PAILS & CANS, per gallon, 3, 2 & 1 gal.	½ gal. Cans, each.	Quarts, each.	Pints, each.
\$1.90	1.95	2.00	1.05	.80	.35

Inside and Outside White,	}\$2.10	2.15	1.15	.85	.40
No. 11, Indian Red,	2.80	2.85	1.50	.80	.45
No. 62, Dark Green,	3.25	3.30	1.70	.90	.50
No. 12, Vermilion,	3.80	3.85	2.00	1.05	.55
No. 10, Standard Green,	1.55	1.60	.85	.50	.30
Floor Paint	Lead,	1.40	1.45	.80	.45

Paints for special purposes made to order.

ROOF AND RAILWAY PAINTS.



nomical paints ever produced for similar purposes. Especially adapted for painting Tin and other Roofs, Railroad Buildings, Bridges, Freight Cars, Steamboat Decks, Boats, Outbuildings, Fences, Gas Holders and other iron and rough woodwork. One gallon will cover from 350 to 400 square feet, one coat. Sample Cards furnished on application.

Per Gal. U. S. Standard Measure.	BBLS., 45 to 30 gals.	KEGS, 20, 15, 10 & 5 gals.	PAILS, 3, 2 & 1 gal.
Brown	\$1.00	1.05	1.10
Dark Red.....	1.20	1.25	1.30
Gas-Holder Paint.....	1.40	1.45	1.50
Red, Gray, Buff, Slate, Yellow and Cream White..	1.40	1.45	1.50

LIQUID PRIMING.

Prepared ready for use for first coating on all wood or brick work. Suitable for use with any shade of our Liquid Paint.

Per Gal. U. S. Standard Measure.	BBLS., 45 to 30 gals.	KEGS, 20, 15, 10 & 5 gals.	PAILS, 3, 2 & 1 gal.
White or Yellow.....	\$1.25	1.30	1.35

SHINGLE STAINS.

Composed of pure colors and the best preservative materials known. Prepared ready for use, in eight colors. One gallon will "dip" about 500 shingles or cover 200 square feet of surface.

Samples on wood sent free on application.

In bbls. and half bbls., 60 cts.; in kegs, 65 cts.; and in pails, 70 cts. per gallon.

Special shades made to order.

IRON-OXIDE PAINT.

This Paint is ground very fine, mixes readily with Raw or Boiled Oil, and is superior in color (a rich dark red) to any other Metallic Paint in the market.

DRY, in kegs, half-bbls. and bbls., from 100 to 300 lbs. ea.; per lb., $2\frac{1}{2}$ cts. **IN OIL**, in 25, 50 and 100-lb. pails and kegs; per lb. 7 "

These Paints are prepared ready for use and possess a more elastic body than any other; they are therefore less liable to injury, and have proven to be the best and most eco-

nomic paints ever produced for similar purposes. They are especially adapted for painting Tin and other Roofs, Railroad Buildings, Bridges, Freight Cars, Steamboat Decks, Boats, Outbuildings, Fences, Gas Holders and other iron and rough woodwork. One gallon will cover from 350 to 400 square feet, one coat. Sample Cards furnished on application.

FINE COLORS IN OIL.

These Colors are prepared from carefully selected pigments ground in pure linseed oil, for the use of Painters and Decorators, and are unequalled in strength and fineness.

Per lb., in 1 and 5-lb. cans.

UMBER,	Best Turkey, Raw and Burnt.....	\$.20
SIENNA,	Best Italian, Raw and Burnt.....	.22
BROWN,	Vandyke.....	.22
	{ Chrome, L., M., O. & D. O.....	.24
	Roman Ochre.....	.27
YELLOWS,	Golden Ochre .....	.20
	Yellow Ochre .....	.18
	Stone Ochre.....	.16
	French Ochre.....	.13
BLACKS,	{ Sign Writers' .....	.24
	Drop.....	.24
	Ivory.....	.24
	Coach.....	.24
	Lettering .....	.20
	Refined Lamp-Black.....	.24
BLUES,	{ Chinese ($\frac{1}{2}$ lb. cans 35c. ea., $\frac{1}{4}$ lb. cans 20c. ea.)	.60
	Azure.....	.30
	Prussian ($\frac{1}{2}$ lb. cans 30c. ea., $\frac{1}{4}$ lb. cans 20c. ea.)	.54
	Ultramarine ($\frac{1}{2}$ " 18c. " $\frac{1}{4}$ " 12c. ")	.30
GREENS,	{ French Verdigris .....	.40
	Permanent .....	.38
	Paris .....	.27
	Chrome, L., M. & D.....	.21
	Window Blind, L., M. & D.....	.18
VERMILIONS,	{ English, L. & D. (Subject to change.)	1.50
	American, L. & D.....	.27
REDS,	{ Rose Pink.....	.27
	Tuscan.....	.30
	Indian.....	.21
	Venetian.....	.13
WHITE,	Flake .....	.26
DISTEMPER COLORS,	{ Black, Vandyke Brown, Umbers and { Siennas..... in 1 lb. bottles, each }	.18
	Chrome Yellow, L., M. & O. " " .....	.30

LIQUID COACH COLORS.



These are prepared ready for use, of the best and most durable materials, and are especially intended for repainting Carriages, Wagons, Carts, Sleighs, Buggies, etc. They can be easily applied, dry rapidly with a firm, hard gloss, and do not require to be either rubbed or varnished. One quart is sufficient for an ordinary sized wagon.

	Quarts.	Pints.
Black	\$1.00;	60 cts.
White, Yellow, Green, Blue, Vermilion	1.25;	75 "

Sample sheets furnished on application.

WOOD STAINS.

Prepared in pure Gold-Size from the best pigments only. They are put up in form of a stiff paste, to be thinned as desired with turpentine only, and, taking into consideration their covering capacity, are the most economical Stains in the market. One pound will produce over one quart of strong Stain, which will cover about 800 square feet. Full directions for using on every package. In 1, 5 and 25-lb. cans.

Antique Oak, Walnut, Mahogany and Cherry, per lb.	25 cts.
Ebony	" 45 "
In $\frac{1}{2}$ -lb. cans, 5 cts. per lb. advance.	

Sample sheets furnished on application.

LIQUID DRYER.

Our Liquid Dryer is superior to any in the market in siccative qualities, lightness of color and uniformity. It possesses unusual strength, is suitable for all linseed oil Paints, and will not discolor the most delicate tints. No other Dryer should be used in our Paints.

In Nozzle Cans,	10 & 5 gals.,	1 gal.,	$\frac{1}{2}$ gal.,	Quarts,	Pints,	$\frac{1}{2}$ Pts.
boxed for shipment.	per gal.	per gal.	each.	each.	each.	each.
U. S. Stand. Measure.	\$1.65	1.85	1.00	55c.	30c.	20c.

STRICTLY PURE LINSEED OIL.

Adulterated and inferior grades of Oil are now sold to such an extent that, to insure the use of good oil in thinning our Paints and Colors, we will supply our customers with strictly pure raw Linseed Oil as used in our Paints, in Barrels, at New York market prices. The following additional charges will be made for packages for smaller lots.

15 to 10-gallon Package.	5-gallon Package.	3-gallon Package.	2-gallon Package.	1-gallon Package.
\$1.00	60c.	50c.	35c.	25c.

~~Empty~~ Empty packages are not returnable.

VARNISHES.

Outside Finishing Varnish.—This is made of the best materials, and is intended for the best outside work where the most durable finish is desired, such as outside doors, window-frames, signs, etc. It is also a superior Finishing Varnish for coach bodies.

Inside Finishing Varnish.—Prepared expressly for inside work of houses finished in hard woods, and the best cabinet work. The wood should be first filled with our **Asbestos Wood-Filler**. The first and second coats of varnish should be rubbed down with hair, or, on fine work, with pumice stone; the last coat may be left bright or rubbed down to a dead finish, as desired.

Extra Coach Varnish.—Is used for the same purposes as our Outside Finishing Varnish, but dries harder. It is adapted for all ordinary outside work, and will be found unsurpassed for Wagons and Gears. It is also used for inside work, over grained woods, etc. To insure best results, two or three days should be given it to harden.

No. 1 Coach Varnish.—Is in every respect equal to our Extra Coach Varnish, except that it is not so pale in color.

Wagon Varnish.—For ordinary wagons, agricultural implements, etc.

Extra Furniture Varnish.—This is a superior light-colored varnish suitable for ordinary cabinet work, and is especially adapted for painted furniture, light woods, etc.

No. 1 Furniture Varnish.—A low priced, serviceable varnish, suitable for ordinary furniture.

Hard Oil Finish.—A superior article for interior hard wood-work, developing the natural beauty of the grain, without discoloration. Can be finished either "gloss" or "polished," as desired, and is not affected by moisture. *When ordering* mention whether required for light or dark woods.

Floor Varnish.—For varnishing either painted or hard-wood floors, etc. The wood should be first "filled" with our **Asbestos Wood-Filler**, brushed on freely and wiped carefully.

Asphalt Varnish.—This is a quick-drying jet-black Varnish in pure Spirits Turpentine, especially adapted for coating new and old iron Fences, Railings, large and small Castings, Tin, Zinc, etc.

VARNISHES.

In Bbls. and Nozzle Cans, boxed for shipment.—U. S. Standard Measure.

	Bbls. per gal.	10 & 5 Gal per gal.	1 Gal. per gal.	1/2 Gal each.	Quarts, each.	Pints, each.	Hf Pts each.
Outside Finishing.....	\$3.75	\$3.95	\$4.15	\$2.20	\$1.15	.85	....
Inside " 	3.00	3.20	3.40	1.80	.95	.55	.30
Spar Varnish.....	4.00	4.20	4.40	2.30	1.25	.75	....
Extra Coach.....	2.25	2.45	2.65	1.45	.80	.45	....
No. 1 " 	2.00	2.20	2.40	1.30	.70	.40	....
Wagon Varnish.....	1.50	1.70	1.90	1.00	.55	.35	....
Extra Furniture.....	1.75	1.95	2.15	1.20	.65	.40	.25
No. 1 " 	1.40	1.60	1.80	1.00	.55	.35	....
Hard Oil Finish, Lt.&Dk	2.10	2.30	2.50	1.35	.75	.45	....
Floor Varnish.....	2.00	2.20	2.40	1.30	.70	.40	....
Asphalt Varnish (Turps.)	1.20	1.40	1.60	.90	.50	.30	....
Orange Shellac (in grain alcohol).....	4.50	4.70	4.90	2.55	1.35	.75	....
Brown Japan.....	1.30	1.50	1.70	.95	.55	.35	....

BLACK LUSTRE VARNISH.

This is a low-priced, quick-drying Varnish made from distilled Coal Tar. It is adapted for coating iron-work, such as Boiler Fronts, Pipes, etc., and for the use of manufacturers of Steam Boilers, Iron Castings, etc.

In bbls. and half bbls., 40 cts.; in kegs, 55 cts.; in pails and cans, 70 cts. per gallon.

ASBESTOS WOOD-FILLER.

Is ground in best Gold-Size, and is offered as the best Wood-Filler in the market.

Dark, Light and Mahogany, in 1, 5 and 25-lb. cans; per lb....20 cts.

ASBESTOS FIRE-PROOF PAINTS.

For Inside Work. These Paints are composed of strictly fire-proof ingredients, prepared ready for use in white and light tints, exclusively for inside rough woodwork of Factories, Warehouses, Railroad Bridges, Boiler-Rooms, Cotton-Gin Houses, Theatres, Cellars, Attics, Stables, etc., for which purposes they are as durable as the ordinary oil paints, and afford a valuable protection against sparks, cinders or light flames. One gallon will cover about 150 square feet, two heavy coats. Can be easily applied by any one.

	BBLS., 50 to 30 gals. 75 cts.	KEGS, 20, 15, 10 & 5 gals. 80 cts.	PAILS, 3, 2 & 1 gal. 85 cts.
Per Gal. U. S. Standard Measure.			

FIRE AND WATER-PROOF PAINTS.

For Outside Work. These are the result of more than twenty years' exhaustive experiments, and are the only Paints ever produced which form a reliable protection against burning sparks and cinders and which will also withstand the action of the weather. They are especially valuable for Wooden Factories, Warehouses, R. R. Fences, Station and Freight Houses, Bridges, Roofs, etc.

They are supplied in all the shades of our Roof and Railway Paints (see page 5). One gallon will cover from 350 to 400 square feet, one coat.

	BBLS., 45 to 30 gals. \$1.90	KEGS, 20, 15, 10 & 5 gals. \$1.95	PAILS, 3, 2 & 1 gal. \$2.00
Railroad-Fence Paint, Red and Brown.	1.10	1.15	1.20

ASBESTOS CONCRETE COATING.

Is strictly fire-proof, and made of proper consistency to be applied with a trowel or a stiff brush. This Coating forms a durable fire-proof surface on beams, posts, partitions, roof boards, and other inside rough woodwork exposed to flames or intense heat. 100 lbs. will cover about 200 sq. ft. 1-16th of an inch thick.

Casks of from 600 to 400 lbs., per lb.....	6½ cts.
Kegs of from 300 to 100 lbs., per lb.....	7 "

THE GREAT IMPROVEMENT IN ROOFING.

Our IMPROVED ASBESTOS ROOFING is the product of entirely new machinery and processes recently completed (for which patents have been granted in the United States, Canada and Europe), by which we not only have greatly increased the strength and durability of our well-known ASBESTOS ROOFING, but have also secured a degree of uniformity never before attained. We offer this as the *perfected* form of the portable Roofing which we have manufactured with continued improvements during the past thirty years, and as the most desirable Roofing for general purposes.

Our improvements consist: 1st. In the production by our new process of moulded or hemmed edges in which the selvages of the canvas foundation are retained; these were formerly cut off to secure straight edges, but are now the strongest part of our improved Roofing and obviate any danger of tearing away from the nails. 2d. In the absolute uniformity in thickness and disposition of the materials. 3d. In a degree of compactness never before attained.

Other valuable improvements are the adoption of a narrower fabric (32 inches) which is more easily applied and more securely fastened to the roof, an improved cementing composition, etc. Our recent inventions also provide for further improvements which will be made known hereafter.



IMPROVEMENTS PATENTED 1890 IN THE U. S., CANADA AND EUROPE.

This Roofing consists of strong canvas, combined with an Asbestos-coated felt and a manila lining or "backing," water-proofed and compressed into a compact, flexible sheet resembling leather; it is suitable for Factories, Foundries, Warehouses, Railroad Buildings, Bridges, Car and Steamboat Decks, etc.; also for floor covering in jewelers' and other work-shops, stables, etc. It is supplied ready for use, in rolls 32 inches wide, containing 200 sq. ft., with allowance for 1½-inch laps, and is packed in cases suitable for shipment to all parts of the world. It weighs, with Coatings complete, including packages, only about 85 lbs. to 100 sq. ft., and, when protected with our **Asbestos Roof Coating** and the **Fire-Proof Coating**,* forms a light, cool and durable roof, which is proof against burning sparks and cinders.

It is adapted for steep and flat roofs in all climates, costs only about half as much as tin and can be readily applied by any one. It requires occasional re-coating.

** Samples and special pamphlet containing full description of our recent improvements, will be sent on application.*

**Per "Square" (100 sq. ft., with allowance for 1½-in. laps), with
Roof Coating, Fire-Proof Coating and Nails complete... \$4.50**

** When ordering, make allowance for extra joints, gutters, etc.*



*F—Asbestos Coated Felt; AA—Layers of Water-proof Composition; C—Canvas;
M—Manila Lining.*

As irresponsible parties have offered for sale inferior materials, representing them as Asbestos Roofing, particular attention is called to the above cut, showing, on an enlarged scale, the foundation of the genuine; the actual thickness is about one-tenth of an inch.

* The Fire-Proof Coating is made in the following colors: Gray, Red and Brown. Gray will be sent, unless otherwise ordered.

ASBESTOS ROOF COATING.



This Coating is composed of ground Asbestos; and Silica, combined with partially distilled coal tar and an acid and water-proof composition, and is prepared ready for use, to be applied with a brush. It is used for coating the Asbestos Roofing, and forms the most durable and economical Coating in use

for Felt and Canvas Roofs. It is also largely used for dipping or coating fence and telegraph posts, spiles, dock-timbers, etc., being a durable preservative and proof against worms. One gallon will cover 100 sq. ft., one heavy coat.

Extra Heavy Coating, for repairing old roofs, will be made to order.

	BBLS.	KEGS,	PAILS,
Per Gal. U. S. Standard Measure.	50 to 30 gals.	20, 15, 10 & 5 gals.	3, 2 & 1 gal.

	40 cts.	45 cts.	50 cts.
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ASBESTOS ROOF CEMENT.

This Cement is prepared ready for use, and forms an elastic, adhesive compound, of a consistency to be easily applied with a trowel. It is used for repairing leaks around chimneys, dormer-windows, sky-lights, scuttles; etc., on all kinds of Roofs, and for broken joints, nail and rust holes in Tin Roofs, etc.

Old leaky **Tin** and **Iron** roofs can be restored and rendered serviceable for many years with the **Brown Cement** and our Asbestos Roof Paints.

The **Black Cement** is used with our Asbestos Roof Coating, for repairing old **Canvas**, **Felt** and other Roofs.

Full instructions on every package.

	50 & 25-lb. Pails.	10-lb. Cans.	5-lb. Cans.
Black.....	6 cts. per lb.	75 cts. each.	50 cts. each.
Brown.....	9 " "	\$1.00 "	75 " "

ROOF BRUSHES.

Our Roofing Brushes are manufactured expressly for applying our Asbestos Roof Paints and Roof Coating, and are the best brushes made for the purpose.

2-Knot, each...\$1.00 3-Knot, each...\$1.50 4-Knot, each...\$2.00

ROOFING NAILS.

Our Barbed Roofing Nails are made with extra-large heads, and are superior to any others. About $1\frac{3}{4}$ lbs. are required for one square (100 square feet) of Asbestos Roofing. Per lb.....8 cts.

ASBESTOS BUILDING FELT.



Our Building Felt is composed entirely of Asbestos, and, on account of its non-conducting and fire-proof qualities, is largely used for lining weather-boards, shingle roofs, floors, wood partitions, etc. It will not disintegrate by age, is odorless and vermin-proof.

In rolls of about 70 lbs., 36 in. wide, in three thicknesses, as follows:

Thin;	about 6 lbs. to 100 sq. ft.
Medium;	" 10 " " 100 "
Heavy;	" 14 " " 100 "
Per lb	14 cts.

ASBESTOS SHEATHING.

This is composed of pure white, long fibred Asbestos, and is strictly fire-proof. It is used for lining wood partitions and ceilings, fire screens, and other surfaces in danger of taking fire.

In rolls of from 60 to 100 lbs., 42 in. wide.....	} per lb..
Thin , about 6 lbs. to 100 sq. ft.....	
Double-thick Asbestos Sheathing, about 10 lbs. to 100 sq. ft.....	

ASBESTOS FIRE AND WATER-PROOF SHEATHING. (PATENTED.)

This is the only strictly Fire and Water-Proof Sheathing made. It is composed exclusively of Asbestos, rendered permanently water-proof by a chemical process, which gives it greater strength than other Asbestos Sheathings or Felts of twice its weight and thickness. Its value as a protection against fire and water, for sheathing or lining weather-boards of wooden structures, shingle and other roofs, floors, walls, partitions, ceilings, etc., will be readily appreciated. It is also acid-proof.

In rolls 36 in. wide, about 7 lbs. to 100 sq. ft.; per lb..... **20** cts.

ASBESTO-SPONGE. (PATENTED.)

This newly invented material has been patented in this country and Europe, and is the result of a discovery of the adhesive attraction existing between the tentacle-like barbs of common sponge and the fine silky fibres of Asbestos, which is so great that a natural "felting" process takes place between these two materials by mere contact.

We have taken advantage of this fact to utilize their combined fire-proof and non-conducting qualities in our **Steam Pipe and Boiler Coverings**, and in adding to the well-known properties of Asbestos the lightness and porosity due to the cellular formation of the sponge (which is practically fire-proof), we have attained results never before accomplished, and offer our **Asbesto-Sponge** products as superior to those of any other material known in effectiveness as non-conductors and for general insulation.

No other known substance possesses the fibrous-cellular formation of ASBESTO-SPONGE, and we challenge the world to produce a practicable non-conducting covering of equal lightness, strength, elasticity, durability and effectiveness.

This new non-conducting and insulating material is practically fire-proof and possesses the advantage of double the bulk (covering capacity) of Hair Felt, and more than three times that of pure Asbestos.

It is especially valuable for filling, lining and deadening Refrigerator Cars, Ice Chests, Floors, Walls, etc.

Covering capacity considered, it costs less than any other material for similar purposes. It is supplied in the following forms :

ASBESTO-SPONGE FILLING.

In bags or bbls. containing about 20 lbs., per lb. 20 cts.

ASBESTO-SPONGE CEMENT FELTING (see next page).

ASBESTO-SPONGE LINED FELT.

In rolls 36 in. wide, per sq. ft. (see page 21)..... 6½ cts.

ASBESTO-SPONGE FELT.

In rolls 36 in. wide (see page 20).

ASBESTO-SPONGE SECTIONAL COVERING (see page 19).

ASBESTO-SPONGE SECTIONAL LAGGING (see page 19).

ASBESTO-SPONGE CEMENT FELTING.

(PATENTED.)

A Non-Conducting Covering for Steam Pipes, Boilers, Stills, and Other Steam-Heated Surfaces.



This improvement upon our well-known **Asbestos Cement Felting** is composed of our new material, **Asbesto-Sponge**, combined with Infusorial Earth and a cementing compound, and is the lightest and most porous Covering ever produced in this form, partaking of the nature of a felt and a cement, to be used as a mortar and applied

with a trowel to Steam Pipes, Boilers, Stills, etc., while heated. It is also extensively used for covering Locomotive Boilers. It is a strictly **first-class article**, and a more effectual non-conductor than any other cement, mortar or so-called "felting" applied to the same thickness, the saving of heat being real as well as apparent,—this is not the case with the common cement coverings, which, being necessarily applied much thicker, furnish a larger radiating surface, by which many are deceived.

It is put up in barrels and bags, dry, to be mixed with water to the consistency of mortar, and can be easily applied by any ordinary mason or plasterer. One bag will cover a flat surface of about 40 sq. ft. one inch thick, and weighs about 135 lbs. Per bag.....\$4.25

Marine Coating. This is a water-proof material, made expressly for coating our Cement Felting when exposed to dampness. One gallon will cover 300 square feet. Price, per gallon.....75 cts.

ASBESTOS HOT-BLAST CEMENT FELTING.

This covering for **Hot-Blast Pipes**, **Smoke Pipes**, and other *fire-heated* surfaces, being strictly fire-proof, is also valuable as a fire-proof lining for slate and other roofs; also as a "deadening" for floors, etc.

One barrel will cover about 40 sq. ft. one inch thick, and weighs about 200 lbs. Per bbl.....\$5.50

ASBESTOS AIR-CHAMBER COVERING.

(PATENTED.)

A Non-Conducting Covering for Boilers, Steam and Hot-Water Pipes.



This Covering is formed of layers of our fire-proof Asbestos Lining Felt, Hair Felt and our Asbestos Sheathing and Canvas. Additional layers of Hair Felt and Sheathing form the *Double* Air-Chamber, one of the lightest and most effective non-conducting coverings known for Steam Pipes, Boilers, etc. Can be easily removed for repairs to pipes and boilers, and replaced without injury.

Instructions for applying sent with each shipment.

Price for Materials Complete to form this Covering, including Canvas :

Single Air-Chamber Covering, per square foot, flat measure 24 cts.
Double Air-Chamber Covering, " " " " " 30 "

At these prices the cost per Linear Foot to Cover Regular Sizes of Pipe will be as follows :

Asbestos Single	½ in.	¾ in.	1 in.	1½ in.	2 in.	2½ in.	3 in.	4 in.	5 in.	6 in.
Air-Chamber,	11c.	12c.	14c.	17c.	20c.	23c.	27c.	33c.	40c.	46c.
Double do.	..17c.	19c.	20c.	25c.	28c.	32c.	36c.	44c.	53c.	61c.

We are the inventors and patentees of non-conducting coverings composed of a layer or lining of Asbestos, surrounded by hair felt, or other porous or fibrous material, and covered or inclosed with a "jacket" or covering material.

Also of the same divided into practically air-tight chambers or compartments by an Asbestos sheet or other air-tight jacket or sheathing; also of a layer or cushion of Asbestos surrounded or covered by a layer or mass of binding material; also of a felt, wadding, batting, or similar sheet, composed of fibrous Asbestos.

Infringers will be prosecuted.

We manufacture several forms of Patented Sectional Cylindrical Coverings embodying the above inventions. See *Special Circular*.

 UNION SECTIONAL COVERING. (PATENTED.)

For Steam Pipes, Etc.



This new Non-Conducting and Insulating Covering is composed of layers of our Asbesto-Sponge Lined Felt and Wool Felt wound into cylindrical shapes of any desired diameter, and is adapted for low pressure Steam and Hot Water Pipes, etc.

It forms the lightest Portable or Sectional Non-Conducting Pipe Covering ever produced, and can be readily attached, removed and replaced by any one.

In sections three feet long, Elbow, Tee, Valve, and other fittings to match. *These are all one inch thick.*

INSIDE DIAMETER OF PIPE.	COVERING, Per Foot.	ELBOWS, Each.	TEES, Each.	VALVES, Each.
From 1 inch to $1\frac{1}{2}$ inch.	25 cts.	25 cts.	33 cts.	25 cts.
2 "	27 "	27 "	36 "	27 "
$2\frac{1}{2}$ "	31 "	31 "	41 "	41 "
3 "	36 "	36 "	48 "	48 "
$3\frac{1}{2}$ "	40 "	40 "	53 "	53 "
4 "	44 "	44 "	59 "	59 "
$4\frac{1}{2}$ "	47 "	47 "	63 "	63 "
5 "	50 "	50 "	67 "	67 "
6 "	58 "	58 "	77 "	77 "
7 "	66 "	66 "	88 "	88 "
8 "	73 "	73 "	97 "	97 "
9 "	80 "	80 "	107 "	107 "
10 "	90 "	90 "	120 "	120 "
12 "	100 "	100 "	133 "	133 "

To In addition to the Sectional Coverings herein described, we manufacture several others, adapted for special purposes.

To See Special Circular.

ASBESTO-SPONGE SECTIONAL COVERING.

(PATENTED.)

For Steam Pipes, Etc.



This Covering is composed of Asbestos and Sponge (as described on page 15), *felted* and formed into cylinders, which are cut longitudinally, so that they can be readily "sprung" over the pipe.

It is adapted for highest steam pressure, and is specially valuable for Car Heating Pipes and where there is danger of injury from motion or vibration.

We also make Asbesto-Sponge Sectional Covering in moulded half sections for stationary work. *See Special Circulars.*

These Coverings are finished with a canvas jacket, with lap to be pasted, and metal bands forming a neat finish over joints.

In sections 3 ft. long. Elbows, Tees, etc., to match.

Thickness of Covering.	Inside Diamet- er of Pipe.	COVERING, Per Foot.	ELBOWS, Each.	TEES, Each.	VALVES, Each.
$\frac{1}{8}$ in.	$\frac{1}{2}, \frac{3}{4}, 1$ in.				
1 in.	{ $1\frac{1}{4}$ " " $1\frac{1}{2}$ "	27 cts.	27 cts.	36 cts.	27 cts.
	2 "	30 "	30 "	40 "	30 "
	$2\frac{1}{2}$ "	35 "	35 "	47 "	47 "
	3 "	40 "	40 "	55 "	55 "
$1\frac{1}{8}$ in.	{ $3\frac{1}{2}$ " 4 " $4\frac{1}{2}$ " 5 "	45 "	45 "	60 "	60 "
	6 "	50 "	50 "	65 "	65 "
	$4\frac{1}{2}$ "	55 "	60 "	74 "	74 "
	7 "	60 "	68 "	80 "	80 "
$1\frac{1}{4}$ in.	{ 6 " 7 " 8 " 9 "	70 "	80 "	92 "	92 "
	10 "	75 "	95 "	105 "	105 "
		82 "	110 "	125 "	125 "
		95 "	125 "	150 "	150 "
$1\frac{1}{2}$ in.	10 "	105 "	140 "	175 "	175 "

ASBESTO-SPONGE SECTIONAL LAGGING.

For Boilers, Flues, Stills, etc. In slabs or blocks $1\frac{1}{2}$ inches thick, 18 inches long by 4 inches wide; per sq. ft. 32 cts.

ASBESTOS FELT. (PATENTED.)

This Felt is composed entirely of pure Asbestos, and is strictly fire-proof. It is made in sheets and rolls of any desired thickness, and possesses three times the strength of Hair Felt.

It is very light, porous and flexible, can be cut and fitted to any desired shape, and is not liable to injury from abrasion or other hard usage.

It is adapted for covering Steam Pipes, Boilers, Heaters, Furnace Pipes, etc., and for all purposes where an absolutely fire-proof, non-conducting covering or lining is desirable. It can be easily applied, removed and replaced without injury.

In rolls 36 in. wide, containing 300 sq. ft.,	$\frac{3}{32}$ in. thick, per sq. ft.,	8 cts.
" " "	$\frac{1}{8}$ "	" " 10 "
" " "	$\frac{1}{4}$ "	" " 15 "
In sheets 24x36 inches,	$\frac{1}{2}$ "	" " 25 "
" " "	1 "	" " 40 "
" " "	$1\frac{1}{2}$ "	" " 50 "

ASBESTO-SPONGE FELT. (PATENTED.)

See description, page 15.

For similar purposes to the Asbestos Felt, and is recommended for all steam work.

In rolls 36 inches wide, same thicknesses and prices as Asbestos Felt.

ASBESTOS WIRE CLOTH. (PATENTED.)

This material is composed of Asbestos, pulped and formed on either side of iron wire-cloth, producing a firm, strong, compact and flexible sheet.

It is water-proof, and is superior to any other material for many purposes; such as walls and ceilings of drying rooms, boiler rooms, fire-proof partitions, screens, also for forming flues, pipes, etc.

It can be cut and bent into cylindrical shape, and may be painted or bronzed.

In rolls 39 inches wide, per sq. ft. **10 cts.**

ASBESTOS FIRE SHEETS.

We manufacture various sizes and thicknesses of fire-proof sheets and blocks for use in Glass Works, Iron Works, etc., also for Jewelers' Blocks and other special uses. Samples, with prices, will be sent free on application.

In sheets $\frac{3}{16}$ in. thick, all sizes up to 30x30 in., per sq. ft. **40 cts.**

ASBESTOS CORDED SHEATHING. (PATENTED.)



This consists of pure Asbestos Sheathing, to the surface of which are attached loosely twisted rolls of Asbestos, forming a material about $\frac{1}{4}$ of an inch thick. It is particularly valuable as a strictly fire-proof, non-conducting covering for Furnaces, Furnace Pipes and other fire-heated surfaces, etc.

In rolls, containing 100 & 150 sq. ft., 36 in. wide; per sq. ft. 24 cts.

ASBESTOS LINING FELT. (PATENTED.)

This material consists of pure Asbestos Sheathing, to one side of which is attached a layer of "flocked" or felted Asbestos, forming a strictly fire-proof, non-conducting lining for Hair Felt, protecting it from the injurious effects of heat when applied to Steam Pipes, Boilers, etc. It is specially adapted for covering Furnaces, Furnace Pipes, fire-heated surfaces, etc.

In rolls 50 ft. long, and 12, 18, 24 & 36 in. wide; per sq. ft. 6 $\frac{1}{2}$ cts.

ASBESTO-SPONGE LINED FELT. (PATENTED.)

This article is used for purposes similar to those of the Asbestos Lining Felt. It is about twice as thick and is recommended for all steam work.

See description, page 15.

In rolls 36 in. wide, per sq. ft. 6 $\frac{1}{2}$ cts.

ASBESTOS LOCOMOTIVE LAGGING. (PATENTED.)

Composed of large strands or twisted rolls of pure Asbestos, woven with a fine Asbestos warp, and lined with a pure Asbestos Sheathing, forming a strong, matted, felt-like material of great non-conducting power. It is fire and acid-proof, and forms the most effective and durable "Lagging" or Covering known for locomotive boilers and all heated surfaces.

This is the only substantial flexible non-conducting Covering for Boilers and Pipes on steamships, which is absolutely fire-proof. It can be cut in any desired shape without waste, and can be easily removed.

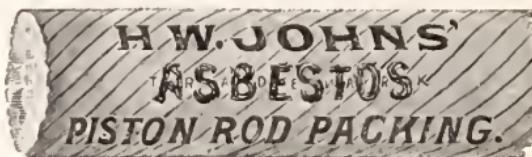
About $\frac{1}{2}$ inch thick, in rolls 36 in. wide; per sq. ft. 45 cts.

HAIR FELT. (Best quality, manufactured expressly for us.)

In bales of 300 sq. ft., 6 ft. wide.

Per sq. ft., $\frac{1}{2}$ inch, 7 cts.; $\frac{3}{4}$ inch, 8 cts.; 1 inch, 9 cts.

ASBESTOS STEAM PACKINGS. (PATENTED.)



Our improved **Asbestos Piston-Rod Packing** is composed of the best quality long-fibre Asbestos, spun into strands and combined with our patented elastic core, by a new process, into a rope of any desired size, and forms the most compact and durable Packing known for locomotives, marine and other engines, valve-stems, oil pumps, expansion joints, etc. It requires less oil than any other, being to a great extent self-lubricating, and will **wear ten times as long** as ordinary packings.

This Packing is superior to any heretofore produced in point of durability and ease of application, and is *indestructible by acids*, long exposure to dampness, or any degree of heat. Lubricating oils made from petroleum work as well with it as lard or sperm.

On reels containing 15, 25 and 50 lbs. each. Regular sizes from $\frac{1}{4}$ to 2 inches in diameter; per lb. 70 cts

We also manufacture in the above sizes :

Asbestos Lubricated Packing	} per lb.	70 "
Asbestos and Hemp Lubricated Packing		

ASBESTOS WICK PACKING.



This article is composed of the purest and finest Asbestos fibre, spun into strands (which can be separated and made into the form of a soft, strong, "lamp-wick," which can be wound or packed in any desired shape around small steam and other valve-stems, pumps, etc. and, being strictly acid and fire-proof, is valuable for use in chemical works, etc.

In $\frac{1}{4}$, $\frac{1}{2}$ and 1-lb. balls and on 5 and 10-lb. spools; per lb. 70 cts
Asbestos Lubricated Wick Packing; per lb. 70 "

NOTE.—The cotton with which other so-called Asbestos Packings are adulterated can be easily detected by subjecting them to flame.

ASBESTOS MILL-BOARD.

Our Mill-board is composed wholly of pure Asbestos. It is strictly fire and acid-proof, and is valuable for packing joints in contact with fire, oils, etc. It is also used for fire-screens, partitions, linings under stoves, grates, etc. In sheets 40x40 and 42x44 inches, from 1-32 to 1-2 inch thick, weighing from 1½ to 28 lbs; per lb..... 18 cts.

Extra Quality, made from *demagnetized* long fibre. Especially adapted for electrical work, etc.; per lb..... 30 cts.

Approximate weight per sheet 40x40 in.:—

1/32	1/16	3/32	1/8	3/16	1/4	3/8	1/2	inch, thickness.
1 ³ / ₄	3 ¹ / ₂	5 ¹ / ₂	7 ¹ / ₂	10 ¹ / ₂	14	21	28	lbs.

ASBESTOS IMPERMEABLE SHEET PACKING.

This is made from our *extra quality* Mill-board, and is acid and steam-proof. It forms an economical and durable flat packing for Flange Joints, Steam Pumps, Cylinder-heads, Manhole Plates of Steam Boilers, Oil Stills, etc. It is very elastic and can be removed and replaced without injury.

In sheets 40 x 40 inches, from 1/16 to 1/2 in. thick; weight from 12 ozs. to 4¹/₂ lbs. per sq. ft.; per lb..... 35 cts.

ASBESTOS GASKETS.

All sizes not exceeding 42 inches outside diameter, from 1-32 to 1-2 of an inch thick, cut to order from our **Extra Quality Asbestos Mill-Board**—weight less than one-half as much as India-Rubber.

Regular shapes, round or square; per lb. 75 cts.
Rings and Washers, 3 inches or less in diameter;
per lb..... \$1.50

Asbestos Impermeable Gaskets. Regular shapes, per lb... 75 cts.
" Rings and Washers, per lb..... \$1.50

Send pattern or drawing with orders for irregular shapes.

ASBESTOS AND RUBBER CLOTH.

This material is composed of Asbestos Cloth covered with our improved composition of Asbestos and India-Rubber. Being very elastic, it will adapt itself to all uneven surfaces, forming a perfect joint, steam, acid, and air-tight.

In sheets and rolls 40 in. wide; weight about 7 oz. per sq. ft. (we also make two and three-ply); per lb..... \$1.15

Asbestos and Rubber Tape. A braided Asbestos Band, or Tape, covered with our improved Asbestos and India-Rubber composition, for forming Gaskets, etc. We make all widths from 5-16 to 2¹/₂ inches; per lb..... \$1.35

Asbestos and Rubber Rings, with cemented lap joints, made to order from our Asbestos and Rubber Tape, on receipt of memorandum of sizes, widths and thicknesses required; per lb. \$1.50

ASBESTOS PLASTIC STOVE LINING.



This material is composed of Asbestos and other fire-proof materials, prepared ready for use in the form of a plastic cement easily applied with a trowel, forming a durable and economical Lining for cooking and heating stoves and ranges, hot-air and boiler furnaces, furnace doors, etc. It is also useful for repairing broken fire-brick, iron linings, etc., exposed to fire heat, and is invaluable as a Fire Mortar for laying and facing fire-brick and bridge walls in boiler furnaces, as it will not warp or burn out and clinkers will not attach to it.

It is also especially valuable for manufacturers of iron, glass, chemicals, etc.

	Per lb.	Each.
Casks, 600 to 400 lbs....	$4\frac{1}{2}$ cts.	10-lb. Cans.....
Kegs, 300 to 100 lbs....	5 "	75 cts.
Pails, 50 and 25 lbs....	6 "	5 " " 50 "

ASBESTOS FURNACE CEMENT.

This is the strongest and most durable cement in use for "setting-up" and repairing broken joints, etc., in Furnaces, Ranges, Heaters, Stoves, etc. It is prepared ready for use, adheres readily and firmly to castings, tin, etc., and "sets" in a few hours. When subjected to heat it vitrifies without shrinking or becoming porous or shaking loose, is inodorous, and effectually prevents escape of smoke, gases, dust, etc., thus insuring perfect draught.

It is also invaluable for cementing and lining Furnace Doors of Steam Boilers, etc., or as a protection for any work exposed to direct heat, flames, etc.

Its color is grey, like castings, and in the unopened tin package will keep an indefinite length of time without deterioration.

	Per lb.	Each.
Casks, 600 to 400 lbs....	6 cts.	10-lb. Cans..... \$1.00
Kegs, 300 to 100 "	$6\frac{1}{2}$ "	5-lb. " 60 cts.
Pails, 50 and 25 "	$7\frac{1}{2}$ "	2-lb. " 35 "
		1-lb. " per doz..... \$2.25

ASBESTOS GASKET CEMENT.

A fire, acid and water-proof cement, for forming air-tight steam joints and for cementing Mill-Board, Asbestos Cloths, Sheathings, etc. In 1, 2 and 5-lb. cans; per lb. 20 cts.

ASBESTOS RETORT CEMENT.



This Cement is now in general use in Gas and Acid Works for repairing broken clay and iron Gas Retorts, Pipes, etc., and for cementing fittings, connecting-pipes, flange-joints, etc., also for lining furnace doors, cementing joints in stone, wood and metals. It is composed of **Asbestos** and other fire and acid-proof materials, is prepared ready for use, can be easily applied with a trowel, and hardens rapidly. When subjected to intense heat it vitrifies without shrinking; it is not injured by nitric or sulphuric acids, petroleum oils, etc., and effectually prevents the escape of vapors.

Casks, 600 to 400 lbs; per lb.....	.6 cts.
Kegs, 300 to 100 " "	6½ " "
Pails, 50 and 25 " "	7½ " "
10-lb. Cans, each.....	\$1.00
5 " " "	.60 cts.

ASBESTOS CLOTH.

We manufacture strictly pure Asbestos Cloth in three standard thicknesses—Fine, Medium and Heavy. It is strictly fire-proof, unaffected by acids or mineral oils, and is extensively used for filtering acids, etc., and as a filter cloth for domestic purposes, and in sugar works, etc. It is also made into theatre curtains, screens, aprons and mittens, for use in theatres, smelting works, iron and steel furnaces, etc., as a protection against fire, heat and red-hot metal, also for covering rollers in print works.

Fine, weight about 3½ oz. to 1 sq. ft.	{ Per yd., { 25 in. wide. \$2.65 36 in. wide. 3.25
Medium, " " 4½ " "	" " 4.25
Heavy, " " 6½ " "	" " 5.00
Heavy Twilled,	" " 5.25

OTHER WIDTHS MADE TO ORDER.

Fire-Proof Theatre Curtains, Flies, Screens, Shields, Covers, Mittens, etc., made to order.

ASBESTOS RUGS.

They are made entirely of pure Asbestos strands, and are woven in plain colors, suitable for artistic house decoration. They are strictly fire-proof, and, although made wholly of stone, are as flexible as any other woven fabric.

30x52 inches, each.....	\$10.00
36x60 " "	12.00



ASBESTOS FIRE-PROOF ROPE.

For fire-escapes, fire-proof ladders, etc.

$\frac{5}{8}$ in. diam., $2\frac{6}{7}$ oz. per foot; tensile strength, 1060 lbs.

$\frac{3}{4}$ " " $4\frac{4}{5}$ " " " " " 1920 lbs.

All sizes from $\frac{1}{2}$ in. to 2 in diameter; per lb ... \$1.50

ASBESTOS CORD.

This is a strong, hard-finished, four-strand Cord, about one-eighth of an inch diameter. It is valuable for suspending Metals, Retorts, Crucibles, etc., in contact with fire, and for use in theatres, chemical and acid works, etc. It is fire and acid-proof and is especially valuable for covering rollers in print works, etc. It will be made to order of any desired diameter.

In 1-lb. balls; per lb..... \$1.40

ASBESTOS TWINE.

This is a strong, hard-finished, three-strand Twine, about one-fifteenth of an inch diameter. It is fire and acid-proof, and its uses are similar to those of our Asbestos Cord. It is also adapted for insulating electric and other wires, etc.

In 1-lb. balls; per lb..... \$1.50

ASBESTOS SEWING TWINE.

A very fine, strong, hard-finished Twine, used for sewing our Asbestos Cloth and for binding materials exposed to the action of fire or acids; also for philosophical and chemical apparatus, etc.

In $\frac{1}{2}$ -lb. balls; per lb..... \$1.90

ASBESTOS TUBES AND PIPES.

Tubes for covering "Carrying-in Forks" in Glass Works, etc.
Pipes for Hot-Air Stoves, etc. All sizes and lengths to order.

ASBESTOS FIBRE.

Especially prepared for packing journal boxes, filtering chemicals, wiping galvanized wire, filling for torches, fuel cartridges, etc.

FINE CARDED FIBRE, per lb..... 50 cts.

No. 1 Extra Picked Fibre,	"	47	"
No. 1	"	44	"
No. 2 Extra	"	20	"
No. 2	"	16	"
No. 3 Extra	"	10	"
No. 3 Fine Ground	"	6	"

VULCABESTON.

(PATENTED.)

Vulcabeston (manufactured by the JOHNS-PRATT Co., Hartford, Conn.) is composed of Asbestos, India Rubber and other vulcanizable gums combined with materials for special requirements, adapting it for water, fire and acid-proof articles, Steam Packings, Electrical Insulators, etc. It is superior to any other material yet discovered for similar purposes, on account of its permanent resistance to heat and immunity from injury by acids, gases, moisture, etc. It can be made in any desired form, is practically indestructible, will not shrink, expand or warp, and is the most perfect electrical insulator known. It is therefore valuable for a great variety of purposes.

At present we make two kinds of **Vulcabeston**—the acid, water and steam-proof, for acid chambers, electric accumulator cells, etc.; this is also specially prepared in the form of moulded gaskets, rings, etc., for packing steam joints;—the fire and water-proof **Vulcabeston**, which will withstand a high degree of dry heat and is a non-conductor of electricity; this possesses all the valuable qualities of the first, except that it is not absolutely acid-proof, and is adapted for general electrical and insulating purposes.



FOR ELECTRICAL PURPOSES.

This material can be drilled, tapped and turned, but as it is moulded into the various forms in which it is required, the drilling and turning necessary in most of the materials now used for electrical pieces are avoided.

VULCABESTON INSULATING SHEETS.

We supply **Vulcabeston** in sheets, 36 x 36 in., and any desired thickness from $\frac{1}{16}$ in. to one inch.

1-16 in. thick and upward, per lb. \$1.25

1-32 and less than 1-16 in. thick, per lb. 1.50

Less than 1-32 in., sheets 24 x 24 in., per sheet.... 2.00

We make to order the following goods for

ELECTRICAL INSULATING:

Vulcabeston Electrical Insulating Rings and Washers.

" Commutator Heads.

" Incandescent Lamp Bases.

" " " Keys.

" Carbon Holders for Arc Lights.

" Insulating parts for Dynamos, Armatures,
Switches, Motors, Electroliers, etc.

As almost all electrical pieces are required to be moulded in special forms, models or drawings of the parts wanted will be required for estimates of cost.

ACID AND WATER-PROOF:

Vulcabeston Insulating and Fire and Acid-Proof Tubing.

" Pump Valves (acid-proof to order).

" Stoppers for Acid and Oil Tanks, Bottles, etc.

" Electric Accumulator Cells.

" Electric Battery Cells.

" Sheets (acid-proof to order).

" Shoes (for use in smelting furnaces, acid and
chemical works, etc.).



FOR STEAM AND MECHANICAL PURPOSES.

On account of the indestructible nature of Asbestos, and the toughness and elasticity gained by the vulcanizing process, Vulcabeston is more durable and effective than any other material known for steam uses. It is made of any desired density, from soft, extra flexible, for rough joints, to very hard, and is supplied in the following forms:

Concave and Convex Packing Rings.

Moulded Gaskets.

- " Piston-rod Packing Rings.
- " Cup Valves.
- " Union Washers.
- " Pump Valves.
- " Faucet Washers, Expansion Joint Washers, etc.

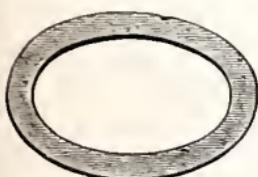
VULCABESTON SHEET PACKING.

This Packing is one of our most valuable productions and will be found to be more durable than Asbestos Mill-board, or any other sheet packings, for joints on Steam, Gas, Hot Air, Oil and Ammonia Fittings.

Hard, Medium and Soft, 36x36 in., 1-16 in. thick and upward,
per lb..... \$1.00
1-32 in. and less than 1-16 inch thick, per lb..... 1.25

The Soft Sheet Packing is intended for very rough joints.

VULCABESTON MOULDED GASKETS.



3 in. or over, outside diameter, weighing
 $\frac{3}{4}$ oz. to 3 oz. each, per lb..... \$2.50
Weighing over 3 oz. each, per lb..... 2.00

Special prices will be quoted for Gaskets less than 3 in. outside diameter and weighing less than $\frac{3}{4}$ oz. each.

For goods not carried in stock regularly, moulds will be charged for.

Special Shapes, to fit any kind of Flange, Joint or Connection, will be made to order.

VULCABESTON PRESSED ROPE GASKETS.

Made from our vulcanized Asbestos Rope Packing.

Weighing less than 2 ounces each, per lb.....	\$3.50
" over 2 ounces, up to 6 ounces each, per lb.....	2.50
" in excess of 6 ounces each, per lb.....	2.00

(No charge for moulds.)

LIBERAL DISCOUNTS TO LARGE CONSUMERS.



VULCANIZED ASBESTOS PACKING RINGS.

(Pressed.) Concave and Convex, $\frac{3}{8}$ in. or more inside diam., per lb..... \$2.00
(Moulds charged for.)

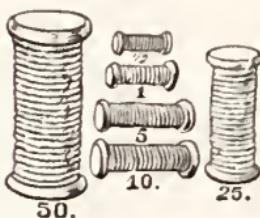
VULCABESTON MOULDED UNION WASHERS.

	$\frac{1}{8}$ in. thick.	$\frac{1}{16}$ in. thick.
For $\frac{1}{4}$ in. pipe, per 100.....	\$2.00	\$1.50
" $\frac{3}{8}$ " "	2.25	1.75
" $\frac{1}{2}$ " "	2.50	2.00
" $\frac{3}{4}$ " "	2.75	2.25
" 1 " "	3.25	2.75
" $1\frac{1}{4}$ " "	4.00	3.25
" $1\frac{1}{2}$ " "	5.00	3.75
" 2 " "	5.50	4.25
" $2\frac{1}{2}$ " "	8.00	6.75
" 3 " "	10.00	8.00

VULCABESTON MOULDED FAUCET WASHERS.

For $\frac{3}{4}$ in. and $\frac{5}{8}$ in. cocks (1 in. and $\frac{7}{8}$ in. outside diam.), per 100	\$2.50
For $\frac{1}{2}$ in. and $\frac{3}{4}$ in. cocks ($\frac{3}{4}$ in. and $\frac{5}{8}$ in. outside diam.), per 100	2.00

VULCANIZED ASBESTOS PISTON-ROD PACKING



This is a flexible rope packing composed of strong, twisted strands of pure Asbestos, combined with India Rubber and vulcanized. It is an improvement upon our Pure Asbestos Packings, and is superior to all others for piston rods, valve stems, pump valves, etc., where high pressure steam, hot water, oils, acids, ammonia, etc., are used, and is also valuable for locomotives and marine engines.

The advantages possessed by this Packing are that, in consequence of its wonderful strength and durability, it can be used wherever metallic packings have been heretofore necessary. It is self-lubricating to a greater extent than any other material, and will not shrink or blow out.

Round, all sizes, from $\frac{1}{8}$ in. to 2 in. diam.; Square, from $\frac{3}{8}$ in. to $\frac{5}{8}$ in.; on reels from 10 to 50 lbs. ($\frac{3}{8}$ in. also in $\frac{1}{4}$ and $\frac{1}{2}$ lb. balls); per lb..... \$1.15

The approximate number of feet to the pound, for the different sizes, are as follows :

$\frac{1}{8}$	$\frac{3}{16}$	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	$\frac{7}{8}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	inches diam.
128	50	25	16	9	8	$6\frac{1}{2}$	4	3	$2\frac{1}{4}$	$1\frac{2}{3}$	1	feet.

Vulcanized Asbestos Wick Packing.

In $\frac{1}{4}$, $\frac{1}{2}$ and 1 lb. balls, $\frac{1}{16}$ in. diam., per lb..... \$1.50

TO USERS OF STEAM.

Within the past few years particular attention has been given to the economical production and utilization of steam, but in the prevention of *radiation* from heated surfaces, but little improvement had been made over the Hair Felt Jackets in common use until we discovered and demonstrated the value of Asbestos Coverings; in the use of these, by our improved methods, we have produced results never before attained in preventing loss of heat, thus saving a large percentage of fuel, and also enabling us to carry steam greater distances than had ever before been found practicable.

Hair Felt forms a good non-conducting covering, so long as it remains uninjured; but, as is well known, hair in contact with heated surfaces soon loses its vitality and becomes a dry, crisp mass, possessing no non-conducting qualities.

Many Cement coverings have been used for the purpose, which have not proven economical or satisfactory "non-conductors." Most of these mixtures, sold under various names, have few advantages over common mortar, and are deceptive, as they simply furnish a larger radiating surface. For instance, an uncovered one inch pipe filled with steam will show a certain quantity of radiated heat. The radiating surface of this pipe is about 50 square inches to the running foot. Cover this with any of the mixtures referred to, say 1½ inches thick, as ordinarily applied, and the radiating surface is increased to 163 square inches, or about *three and one-fourth times the original surface to radiate the same quantity of heat*; such a covering will be comparatively cool to the touch, but a proper *thermometric* test will show that nearly the same quantity of heat is lost as when a thinner coating is applied, owing to the fact that the covering is in no sense a "non-conductor." Some forms of covering have a continuous air space which serves as a ventilator to carry off the heat, rendering the covering cool, and others possess equally palpable faults.

Our utilization of Asbestos, in the form of Felts, Sheets, etc., and in combination with other materials, has enabled us to produce safe, reliable, permanent and effective non-conducting coverings, and we are prepared to satisfy every one that in these respects our improved Asbestos coverings are unequaled by any in the world.

THE CENTENNIAL PRIZE MEDAL AND DIPLOMA OF MERIT

WERE AWARDED FOR OUR ASBESTOS MATERIALS.

FIRST PREMIUM AWARDED BY

CHILIAN EXPOSITION, 1875.
ATLANTA COTTON EXPOSITION, 1881.
INTER-COLONIAL EXPOSITION, MEL-
BOURNE, AUSTRALIA 1880
GOLD MEDALS (2), MATANZAS EXPO-
SITION, 1881.

SILVER MEDAL, AMSTERDAM EXPO-
SITION, 1883.
CRYSTAL PALACE MEDAL, LONDON, 1884.
MEDAL OF THE FIRST CLASS, NEW
ORLEANS, 1885.
AMERICAN INSTITUTE, FOR 20 YEARS.

The Highest Premiums have in every instance been awarded to our Asbestos and other Materials at all Expositions and Fairs wherever exhibited.

LIBERAL DISCOUNTS TO LARGE CONSUMERS.

TO DEALERS

And General Merchants.

WE ask you to look over our list, which comprises many well known articles for Household, Structural and Mechanical purposes, which are constantly wanted everywhere. We believe no other manufacturing house can offer a more desirable line of goods of solid practical value, or one which forms so complete a basis for a profitable business *all the year round*.

Although for seemingly widely different purposes, our goods are all connected in their uses, and are required by every one for his house, store or factory.

We give *exclusive sale* of our PAINTS, ROOFING and STEAM PIPE AND BOILER COVERINGS, and our terms will be found liberal and satisfactory.

TO CONSUMERS.

Manufacturers, Builders, Railroad Cos., Etc.,
can save from 10 to 25 per cent. of their customary outlays
by use of our

LIQUID PAINTS, ASBESTOS ROOFING, STEAM PIPE AND
BOILER COVERINGS, STEAM PACKINGS, Etc.

Ready for Use and easily applied by any one.

Samples, Estimates of Cost and any further desired information will be promptly furnished.

 **LIBERAL DISCOUNTS TO LARGE CONSUMERS.**

H. W. JOHNS MANUFACTURING CO.,
87 MAIDEN LANE, NEW YORK. | 240 & 242 RANDOLPH ST., CHICAGO.
170 & 172 NORTH 4TH ST., PHILA. | 88 LEADENHALL ST., LONDON.
44 OLIVER ST., BOSTON (C. W. TRAINER & CO., INC.).



Facsimile of our
Trade Mark
Label.



Which will be found on
every package of
our Paints.

